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ABSTRACT

During the 1990-91 school year, a study was completed on the school climate of a secondary professional development school (PDS). Since January 1989, Holt High School, an urban fringe high school located outside of Lansing, Michigan, had been designated a PDS. The major purposes of the study were to: (1) determine if changes in attitudes and beliefs had occurred over time among Holt staff; (2) ascertain whether the principles and values inherent in the design of PDSs have been accepted into the culture at Holt; and (3) identify rationale for any observed changes in beliefs over time and in the culture of the school. Subjects were 42 teachers who had been surveyed in 1986. The same instrument was used to survey the teachers, and results from the two surveys were compared using the Fisher Exact test. Personal interviews were conducted after the questionnaire was completed to provide a rationale for observed changes. Results indicate: (1) statistically significant changes occurred over time among school faculty for several belief statements; (2) the school climate has an overwhelmingly positive climate as measured by the responses to selected statements; (3) school faculty members have accepted into their value system and their school culture the underlying concepts for design of PDSs; and (4) the PDS has had a powerful influence on the beliefs and attitudes of the high school faculty. (IAH)

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A Study of School Climate in a Secondary Professional Development School

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SCHOOL CLIMATE IN A PDS

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Abstract

During the 1990-91 school year, a study was completed on the school climate of a secondary professional development school. Since January of 1989 Holt High School, an urban fringe high school, located outside of Lansing, Michigan had been designated as a Professional Development School (PDS). The high school staff had worked intensively and cooperatively with faculty from Michigan State University on a variety of projects and professional development activities. The major purposes in conducting a school climate study at the professional development school were to:

1. determine if changes in attitudes and beliefs had occurred over time among staff members at Holt H.S.
2. ascertain whether the principles and values inherent in the design professional development schools had been accepted into the culture at Holt H.S.
3. identify rationale for any observed changes in beliefs over time and in the culture of the school.

Through the use of a questionnaire instructors were surveyed about their perceptions of the school. The questionnaire was used to determine if changes in beliefs and attitudes had occurred among faculty members in the designated professional development school. The instrument was administered to full-time faculty members in May of 1991.

The survey instrument was identical to one given to the staff in 1986. The survey covered the major dimensions of school effectiveness, equity, and climate. Questions related to the following components of school effectiveness: school mission, high expectations, school and community relationships, monitoring of student progress, time on task, equity, instructional leadership, decision-making, safe and orderly environment, consideration, and academic growth and renewal.were asked of the respondents. A total of thirty-seven statements from the 1991 survey were selected by the researcher for comparison with the 1986 survey results. The statements were selected for their relatedness to the design principles of professional development schools. A statistical comparison of the responses for the thirty-seven selected belief statements was made by using the Fisher Exact test. A total of nine belief statements had resulted in statistically significant changes at the .05 level from when the instrument was last administered. Cumulative totals and percentages were calculated for the selected belief statements. Personal interviews were conducted after the questionnaire was completed to provide rationale for the observed changes

A Study of School Climate in a Secondary Professional Development School

A professional development school is an innovation which requires a different school climate and culture by creating changes in teaching and learning, new connections with parents and community, different management styles, and group decision-making.

According to the Holmes Group (1990), six underlying principles are fundamental to the design of professional development schools. These design principles are:

Principle #1: Teach for understanding so that students learn for a lifetime.

Principle #2: Organize the school and its classrooms as a community of learning.

Principle #3: Hold ambitious learning goals for everybody's children.

Principle #4: Teach adults as well as children.

Principle #5: Make reflection and inquiry the central feature of the school.

Principle #6: Invent a new organization.

The concept of culture describes the character of a school, as it reflects the values, beliefs, norms, and traditions formed over the lifetime of a school. Complex and unique, the shared beliefs, values, expectations, and relationships make up the

school culture and knit a school community together. The school culture influences whether the teachers are able and willing to provide mind-stretching learning opportunities and whether the students are willing to take advantage of them. The school culture helps to determine whether students and teachers are satisfied with their school. Culture influences whether the school provides a good education and whether the students are learning. (Anderson, 1982; Hamilton, 1983; Rosenholtz, 1985). The norms for a school's culture influences how a school functions as a workplace for teachers. Culture also affects the commitment to student learning, the primacy of teaching, opportunities for program improvement and professional development activities, and the administrative leadership of the school (Oakes, 1989).

The researcher spent a school year working with university and school personnel on a variety of policy, program, instructional, and research tasks at Holt High School. The study was initiated because of the many comments received from visitors to the school about the unique climate and culture which existed at the school.

Since January of 1989 Holt High School, an urban fringe high school, located outside of Lansing, Michigan has been designated as a Professional Development School (PDS). The high school staff worked intensively and cooperatively with

faculty from Michigan State University on a variety of projects and professional development activities. During the 1990-91 school year the high school served 1000 tenth through twelfth grade students and had 52 full and part-time staff members and 3 administrators who actively participated in PDS activities. The high school has had a very stable administration and faculty. Only three new faculty members and one new building principal, formally a Holt H.S. counselor had been hired in the last five years.

During the year 1990-91 school year the high school had restructured the work week by dedicating every Wednesday morning for staff development. Students reported to school every Wednesday morning at 11:30 A.M. while faculty participated in various study and improvement groups starting at 7:30 A.M. Study and improvement committees and groups during the 1990-91 school year included the following: 1) At Risk Team 2) Community Service Group 3) Cooperative Learning Circle 4) Global Studies Committee 5) Inquiry Group 6) Outcomes Group 7) Technology Skills Committee 8) Restructuring Committee 9) Steering Committee and 10) Teacher Education Group.

The researcher hypothesized that significant changes in faculty beliefs and in the school culture had occurred over time

at Holt H.S. It was hypothesized that significant changes were the result of the professional development school intervention.

Accordingly, the major purposes in researching the school culture at this professional development school were to:

1. study changes in attitudes and beliefs over time among staff members at Holt H.S.
2. identify whether the principles and values inherent in the design professional development schools had been accepted into the culture at Holt H.S.
3. identify possible rationale through personal interviews for any observed changes in beliefs over time.

Through the use of a survey questionnaire the researcher sought to determine if changes in beliefs and attitudes had occurred among faculty members in a designated professional development school.

The researcher was also interested in finding out, if the professional development school intervention, had affected the climate and culture of the school. Personal interviews were conducted after the questionnaire was completed to suggest rationale for any observed changes.

Method

The Secondary School Development Questionnaire: Form II (Villanova, 1982) was given to full-time faculty members in May of 1991. The survey instrument was identical to one given to the staff in 1986. The survey had 100 statements and covered the major dimensions of school effectiveness, equity, and climate. The survey contained questions related to the following components of school effectiveness: school mission, high expectations, school and community relationships, monitoring of student progress, time on task, equity, instructional leadership, decision-making, safe and orderly environment, consideration, and academic growth and renewal.

The questionnaire, with an introduction and directions is shown in Appendix A. All 45 full-time instructors responded to the survey instrument. However, only the faculty who were employed and who had responded to the 1986 survey were used for comparison purposes. The total sample size, therefore, totalled 42 full-time faculty members.

The Secondary School Development Questionnaire: Form II was used to survey instructor perceptions based upon their own experiences within the school. Survey respondents were told that there were no right or wrong answers. Whenever possible, the questions were designed to measure "school

effects" and respondents were asked to generalize about the people working in the school. Where this was not possible, they were told to respond from personal experience.

Respondents were asked to record their answers using a five point scale ranging from "strongly agree" to "strongly disagree" for 100 questions regarding their perceptions of the school. The response categories were:

A= Strongly agree

B= Agree

C= Undecided (respondents were advised to use this response as infrequently as possible)

D= Disagree

E= Strongly Disagree

The Secondary School Development Questionnaire: Form II was not originally designed for administration in a professional development school setting. The researcher selected a total of thirty-seven school climate statements, which were felt to be associated with and inherent within each of the six PDS design principles identified by the Holmes group. The thirty-seven school climate statements were grouped under each of the six major principles and are shown in Appendix B

The null hypothesis for all the 37 selected belief statements was that there were no statistically significant

differences between the negative and non-negative faculty responses in 1986 as compared with the negative and non-negative faculty responses in 1991.

Respondents who answered "Strongly Agree", "Agree", and "Undecided" to the survey questions were identified as non-negative respondents. Respondents who answered "Strongly Disagree" and "Disagree" answers were identified as negative respondents.

Descriptive data was obtained for all the belief statements. A statistical comparison of the responses was made for the 37 selected belief statements from the 1986 survey and the 1991 survey using a Fisher exact test. By using this statistical test significance at the .05 level was reached for a total of 9 belief statements. The results of the Fisher Exact test for all 37 statements are shown in Appendix C.

In-depth follow-up interviews were conducted in June of 1991 with a representative group of ten teachers, which suggested possible rationale and reasons for observed changes in the school climate at the high school. The follow-up interview script is presented in Appendix D.

Results

A total of nine school climate statements from the thirty-seven selected by the researcher for analysis had changed significantly, since completion of the last school climate survey. The nine school climate statements were found to be significant at the .05 level of significance. The Statistically Significant Statements are shown on Table #1.

Table 1

Statistically Significant Statements

Statement	Level of Significance
1. Teachers do not hold consistently high expectations for all students (Statement #94)*	.05
2. Students stay away from school only for good reasons (Statement #71)*	1.00E-03
3. Most parents understand and promote the school's instructional program (Statement #61)*	.05
4. Teachers in this school observe other teachers teaching (Statement #12)*	5.31E-10
5. Instructional issues are seldom the focus of faculty meetings (State #34)*	.04

(table continues)

Statement	Level of Significance
6. Special instructional programs for individual students are integrated with classroom instruction and school curriculum.(Statement # 81)*	.05
7. Pull out programs often disrupt and interfere with subject matter instruction. (Statement #56)*	.02
8. Multiple assessments methods are used to assess student progress. (Statement # 64)*	.05
9. Problems are dealt with openly rather than being swept under the carpet.(Statement #31)*	.02

The totals and percentages of the negative and non-negative respondents to the statements selected for teaching for understanding are shown in Table #2 Teach for Understanding so that Students Learn for a Lifetime.

Table #2

Teach for Understanding so that Students Learn for a Lifetime.

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
1. Teachers in this school believe that they are responsible for all students mastering all subject matter at each grade level. (Statement #96)	9(21.4%)	33(78.6%)	10(23.8%)	32(76.2%)
2. Teachers believe that all students in this school can master subject matter as a direct result of the instructional program. (Statement #89)	8(19.0%)	34(81.0%)	8(19%)	34(81%)
3. All students are expected to master subject matter at each grade level. (Statement #79)	17(16.7%)	35(83.3%)	8(19%)	34(81%)

(table continues)

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
4. Teachers do not hold consistently high expectations for all students. (Statement #94)*	9(21.4%)	33(78.6%)	3(7.1%)	39(92.9%)

*significant at the .05 level

Of the statements selected to measure the beliefs underlying teaching for understanding one statement, "Teachers do not hold high expectations from students", reached significance at the .05 level.

The totals and percentages of the negative and non-negative respondents to the statements selected for organizing the school as a learning community are shown on Table #3 Organize the School and its Classrooms as a Community of Learning.

Table #3

Organize the School and Community as a Community of Learning.

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
1. Students stay away from school only for good reasons. (Statement #71)*	27(64.3%)	15(35.7%)	12(28.6%)	30(71.4%)
2. Students and staff have numerous opportunities to work jointly on school projects. (Statement #41)	8(19.0%)	34(81.0%)	4(9.5%)	38(91.5%)
3. Teachers from one subject area or grade level respect those from other subject areas or grade levels. (Statement #21)	7(16.7%)	35(83.3%)	3(7.1%)	39(92.9%)

(table continues)

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
4. New students and faculty members are made to feel welcome and part of the group. (Statement #28)	3(7.1%)	39(92.9%)	3(7.1%)	39(92.9%)
5. The principal really cares about students. (Statement #100)	4(9.5%)	38(90.5%)	1(2.4%)	41(97.6%)
6. The principal talks with us frankly and openly. (Statement #18)	0(0%)	42(100%)	1(2.4)	41(97.6%)
7. Most parents understand and promote the school's instructional program. (Statement #61)*	9(21.4%)	33(78.6%)	3(7.1%)	39(92.9%)

*significant at the .05 level

Of the seven statements selected to measure the beliefs underlying Principle #2 two statements, "Students stay away from school for only good reasons" and, "Most parents

understand and promote the school's instructional program reached significance at the .05 level.

The totals and percentages of the negative and non-negative respondents to the statements selected for organizing the school as a learning community are shown on Table #4

Hold Ambitious Learning Goals for Everybody's Children.

Table #4

Hold Ambitious Learning Goals for Everybody's Children

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
1. The guidance and counseling system in this school serve all students equally. (Statement #6)	10(23.8%)	32(76.2%)	12(28.6%)	30(71.4%)
2. Teachers provide opportunities for students that cross race, gender and cultural boundaries. (Statement #86)	3(7.1%)	39(92.9%)	3(7.1%)	39(92.9)

The two statements selected to measure the principle of

ambitious learning goals for everybody's children failed to reach significance at the .05 level.

The total and percentages of the negative and non-negative respondents to the statements selected for organizing the school as a learning community are shown on Table #5 Teach Adults as well as Children.

Table #5

Teach Adults as well as Children

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
1. Students feel that the school program is relevant to their future needs. (Statement #33)	3(7.1%)	39(92.9%)	4(9.5%)	38(90.5%)
2. Teachers are held accountable in this school for providing learning opportunities for each of their classes. (Statement #99)	4(9.5%)	38(90.5%)	4(9.5%)	38(90.5%)

(table continues)

1986 1991

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
3. Teachers in this school observe other teachers teaching. (Statement #12)*	30(71.4%)	12(28.6%)	3(7.1%)	39(92.9%)
4. The teachers in this school know how to teach as well as what to teach. (Statement #13)	3(7.1%)	39(92.9%)	1(2.4%)	41(97.6%)
5. The principal frequently communicates to individual teachers responsibilities in relation to student achievement. (Statement #65)	4(9.5%)	38(90.5%)	10(23.8%)	32(76.2%)
6. Instructional issues are seldom the focus of faculty meetings. (Statement#34)*	15(35.7%)	27(64.3%)	7(16.7%)	35(83.3%)

(table continues)

Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
7. During follow-up to formal observations the principal's main emphasis is on instruction. (Statement #37)	4(9.5%)	38(90.5%)	6(14.3%)	36(85.7%)
8. The principal leads frequent, formal discussions concerning instruction and student achievement. (Statement #60)	9(21.4%)	33(78.6%)	5(11.9%)	37(88.1%)
9. Teachers in this school do not turn to the principal with instructional concerns. (Statement #38)	6(14.3%)	36(85.7%)	5(11.9%)	37(88.1%)
10. There is clear, strong centralized instructional leadership from the principal in this school. (Statement #35)	3(7.1%)	39(92.9%)	4(9.5%)	38(91.5%)

(table continues)

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
11. At the principal's initiative, teachers work together to effectively coordinate the instruction program with/bet grades. (Statement #49)	6(14.3%)	36(85.7%)	4(9.5%)	38(91.5%)
12. The principal is highly visible in the school. (Statement #43)	0(0%)	42(100%)	3(7.1%)	39(92.9%)
13. Supervision is directed at instruction. (Statement #26)	2(4.8%)	40(95.2%)	1(2.4%)	41(97.6%)
14. The principal is very active in securing resources for instruction. (Statement #52)	3(7.1%)	39(92.9%)	0(0%)	42(100%)

* significant at the .05 level

Two of the fourteen statements selected to measure the beliefs underlying the principle of teaching adults as well as children, "Teachers in this school observe other teachers

teaching", and "Instructional issues are seldom the focus of faculty meetings", reached significance at the .05 level.

The totals and percentages of the negative and non-negative respondents to the statements related to making reflection and inquiry a central feature of the school are shown on Table #6 Make Reflection and Inquiry a Central Feature of the School.

Table #6

Make Reflection and Inquiry a Central Feature of the School.

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
1. Special instructional programs for individual students are integrated with classroom instruction and school curriculum. (Statement # 81)*	1(2.4%)	41(97.6%)	6(14.3%)	36(85.7%)
2. Pull out programs often disrupt and interfere with instruction. (Statement #56)*	35(83.3%)	7(16.7%)	26(61.9%)	16(38.1%)

(table continues)

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
3. Multiple assessments methods are used to assess student progress. (Statement # 64)*	9(21.4%)	33(78.6%)	3(7.1%)	39(92.9%)

*significant at the.05 level

All three statements selected to measure the beliefs underlying reflection and inquiry reached significance at the .05 level.

The totals and percentages showing the negative and non-negative respondents to the statements selected for creating a new organizational structure for the school are shown on Table 7 Invent a New Organization.

Table #7

Invent a New Organization

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
1. Problems are dealt with openly... (Statement #30)*	0(0%)	42(100%)	5(11.9%)	37(88.1%)

(table continues)

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
2. Most problems facing this school can be solved by the principal and faculty without a great deal of outside help. (Statement #62)	2(4.8%)	40(95.2%)	4(9.5%)	38(90.5%)
3. When all is said and done, I feel that I count in this school. (Statement #92)	2(4.8%)	40(95.2%)	3(7.1%)	39(92.9%)
4. New programs are adapted to the particular needs of this community and this particular school. (Statement # 36)	3(7.1)	39(92.9%)	3(7.1%)	39(92.9%)
5. I feel that my ideas are listened to and used in this school. (Statement#90)	2(4.8%)	40(92.2%)	1(2.4%)	41(95.9%

(table continues)

	1986		1991	
Statement	Neg respondents	Non-neg respondents	Neg respondents	Non-neg respondents
6. When we have conflicts in this school,the results are constructive and not destructive. (Statement #11)	3(7.1%)	39(92.9%)	1(2.4%)	41(97.6%)
7.When a problem comes up, this school has procedures for working on it. (Statement # 69)	1(2.4%)	41(97.6%)	0(0%)	42(100%)

*significant at the .05 level

One statement selected to measure the beliefs underlying inventing a new institution, "Problems are dealt with openly rather than be swept under the rug" reached significance at the .05 level.

Discussion

Statistically significant changes in faculty beliefs occurred in 9 of 37 selected.statements. The summative data for all 37 statements suggests that Holt H. S. has an extremely positive school climate. The interview comments reflected the current culture of the school and helped to explain the changes which had occurred over the five year time period.

The following represents an examination, interpretation, and qualification of the results. Inferences from the data are drawn and supported by selected statements of teachers who participated in the follow-up interviews. This discussion is organized around the major PDS design principles. The concepts and ideas, which are inherent to each principle are identified. After the principles and underlying themes have been identified their relationship to the current culture at Holt H.S. is explored

Principle #1 Teach for understanding so that students learn for a lifetime. The major themes embedded in this PDS design principle include the following:

#1. respecting student ideas.

#2. believing basics to be more than "facts" but also concepts and relationships.

#3. assigning students more complex tasks.

#4. encouraging teachers to pursue complex knowledge of the subject they teach.

#5. providing creative and higher levels of thinking for students.

#6. using cooperative learning strategies.

#7. developing an attitude of efficacy, wonder, and curiosity in students.

A majority of the non negative responses were found for all the statements selected to measure the faculty's support of PDS Principle #1: Teaching for Understanding (see Table #2).

The result of the one statistically significant statement was unexpected, but explainable. More teachers were negative about the statement "teachers do not hold high expectations for all students", in 1991 than in 1986. Changes in thinking related to learning strategies, the nature of teaching, and the pursuit of higher levels of learning at the school are possibly changing faculty beliefs related to this statement. These changes are reflected in the personal comments of several teachers interviewed after the survey was completed. The comments follow:

> "I've found that students are much more capable than they themselves realize and this is a mental adjustment. I think teachers have been trained by the system and what we've taught them(students) is passivity, a wait and see what happens (attitude) or act like a sponge(behavior)". Students have to enter into the education process. It's a continuing and on-going process. The student must go through the process and become part of it. Rather than just letting them (students) sit there as passive individuals."

"I've incorporated cooperative learning in my classes. On my finals I've had some kids work in groups to try to solve problems together."

"We're seeing students much more involved than they were in the past."

"The purpose of our school is to make them (students) become independent learners, so that we give them the power to continue teaching themselves after they leave school."

Holt H.S faculty want students to be active producers of thought, not passive consumers. The faculty wants the learning tasks and programs to make sense for students. They are concerned about teaching for understanding and high expectations, but their ideas of "high expectations" have undergone significant changes over the last few years.

Principle #2 Organize the school and its classrooms as a community of learning. The major themes embedded in this PDS design principle include the following:

#1. developing a community of learning.

#2. working together to develop intellectual and social understandings in students.

#3 developing responsible citizens in a democratic manner.

For six of the seven statements associated with this principle, faculty non negative responses had increased from 1986 to 1991 (see Table #3). A majority of non negative responses were found for all statements selected to measure the staff's support of PDS Principle #2: Organize the School and its Classrooms as a Community of Learning.

The results of the statistically significant statements were expected. More teachers were non negative about the statement "students stay away from school for only good reasons" and the statement "most parents understand and promote the school's instructional program in 1991 than in 1986.

Parental, community and board of education support for the PDS at Holt H.S. is high. This fact is reflected in a school restructuring program which started in 1990, whereby students report for a 1/2 day session on Wednesdays. The teachers have every Wednesday morning for professional development. Faculty believe that they care about the intellectual and social understandings of their students and that the students know and appreciate their efforts. This is reflected in the teacher comments that follow:

> "The faculty is, first of all, concerned about the educational welfare of the students. Since it is such a caring faculty, I think that they go through

and carry that over into the well-being of the student in general."

"Our school is a place where I think everybody is respected. Not all teachers are comfortable with all students; not all students are comfortable with all teachers. But I think for the most part, the students and the teachers both feel a belonging and feel this ability to interact with one another. You know, whether it's extra help with an academic issue or whether it personal advice."

"The relationships are healthy. From student surveys the kids see us as helping, not the enemy, so to speak."

Both "community" and "learning" have equal weight at Holt H.S. Faculty and students work together to achieve intellectual and social understandings and to create an embracing culture.

Principle #3 Hold these ambitious learning goals for all children. Major concepts associated with this principle include such concepts as:

#1. respecting diversity.

#2. stressing inclusion of all children.

Faculty non negative responses increased for one of the statements and faculty negative responses increased for the

other statement selected. A majority of non negative responses were found for all the statements selected to measure the staff's support of PDS Principle #3: Hold ambitious learning goals for everybody's children (see Table #4).

No statistically significant changes were observed between the 1986 and 1991 survey responses. This may be the result of the fact that Holt H.S. is predominantly a white majority high school with few minorities. However, faculty do respect the students and demonstrate a caring attitude, which is reflected in the statements that follow:

> "The philosophy and purpose of the Holt H.S. is to examine and provide a place for everybody as learners and to look for the best way that people can learn, both adults and children, and to constantly examine the way we do that"
>
> "One of the things that I've been working on is making them (at risk students) feel included as a part of the school community"
>
> "I think students feel that Holt is a good place and results have shown that students believe that the teachers do care about them. And that the teachers are there to help".

Principle #4 Teach adults as well as children. The major concepts associated with this principle include:

#1. developing collaborative activities between teachers, administrators and professors collaborating on projects.

#2. showing novice teachers the enterprise.

#3. improving practice of experienced teachers.

#4. developing new management styles for administrators.

For nine of the fourteen statements associated with this principle faculty non negative responses had increased from 1986 to 1991 (see Table #5). However, a majority of non negative responses were found for all the statements selected to measure the staff's support of PDS Principle #4: Teach Adults as well as Children.

The results of the statistically significant statements were expected. More teachers had non negative responses to the statement "teachers in this school observe other teachers teaching", and "instructional issues are seldom the focus of faculty meetings" in 1991 than in 1986. Co-teaching responsibilities and reassigned time for teachers at the high school have created many opportunities to observe other teachers teaching. Faculty meetings are more focused on school policies, procedures,operational decisions related to instruction, rather than instruction alone. Instructional issues are discussed in the study and improvement team meetings and

department meetings, rather than at general staff meetings. Faculty believe in professional development, improving their practice, and in leading, managing, and organizing their school differently. These beliefs are typified by the following statements:

> "The building administration views classroom instruction as what were all about. Our principal views his job as helping teacher do what they do, basically instruction. Central administration is really concerned about instruction, so most of the work that's done is done with the intent of improving practice"
>
> "I think our biggest shift has probably come with our involvement with PDS because we've been infused with an awful lot of people and an awful lot of ideas. We have been forced, not coerced, into thinking more about our teaching practice, our relationships with students, etc".
>
> "The faculty is involved almost in all of the curriculum decisions to the point that we are an empowered faculty. We really believe that we have an affect on the areas we teach and the curriculum we work with. We believe that the administration, not only the principal, but up to the

board and superintendent are supportive of those decisions."

Principle #5 Make reflection and inquiry the central feature of the school. The major concepts associated with this principle include:

#1 making the school a center of inquiry and experimentation.

#2. making reflection a part of practice.

#3. risk taking.

#4. experimenting with organization of classes, classrooms, and of scheduling of teachers' time.

Faculty non-negative responses increased for two of the statements, while faculty negative responses increased.for one of the statements. A majority of non negative responses was found for two of the statements selected to measure the staff's support of PDS Principle #5: Make reflection and inquiry a central feature of the school (see Table 6).

All of the statements identified with this design principle had statistically significant observed changes. The results of the statistically significant statements were expected. More teachers were non-negative about "multiple assessments methods are used to assess student progress." This change may be the result of the increasing use of different assessment

instruments (learning journals, portfolios, cooperative projects, etc) which have been initiated by staff.

More teachers were non negative about the statement "pull out programs often disrupt and interfere with subject matter instruction" in 1991 than in 1986. But more teachers were negative about the statement "special instructional programs for individual students are integrated with classroom instruction and school curriculum". The school is experimenting with inclusive education for special education and "at risk" students in several discipline areas. The results of these efforts have not been thoroughly studied. This condition may have caused the faculty to have mixed beliefs regarding this issue. However, teachers believe that a variety of instructional arrangements can be tried without being disruptive to the instructional process. Support is also found for reflecting on teaching practice and inquiry in the following statements:

> "I think a lot of us are very much concerned about what we're doing. Is that the best thing to be doing? We are willing to experiment with new things. Willing to try new things. Willing to say okay, well, maybe it's worked for me,but maybe there are other things that I can do... some other alternatives that will work as well."

"I'm finding that I'm not at ease with the teacher as teller role, and that I'm looking for more opportunities to facilitate what students do. So, I'm seeing that difference in the way that I'm looking at things."

"How do you set up a task to accomplish what you want to accomplish? How do you define what you want to accomplish? How do you arrive at an outcome? Is it a good outcome? Is it valuable? The work that we have the students do to arrive at that outcome, is that worthwhile? Those are the things that we're talking about."

"How can I be re-assessing, re-evaluating and making changes (after all these years)? But I find that I'm doing that and I think part of it is the encouragement from others. As you see all of these opportunities being afforded to you and all the techniques being discussed and people trying this and people trying that. You know, you're constantly saying, if I applied this, maybe I would make the education more meaningful."

"I'm becoming more and more concerned about inter-disciplinary efforts. I don't look at government or history as a single entity anymore.

I look at the importance of English in those areas. Naturally there is a history perspective in them, but the English and social studies, the social ramifications of those areas are being woven into my curriculum more and more."

Experienced teachers at Holt H.S. have sharpened their practice. Their involvement in the decision-making process has added to their status and prestige. Through observation, study, and by organizing to refresh their own learning they have deepened their understanding of teaching.

Principle # 6 Invent a new organization. The major concepts associated with this principle include:

#1. developing flexible roles and rotating assignments for teachers.

#2. organizing subjects and staff in different ways.

#3. utilizing expert teachers in formal and informal leadership roles.

#4 creating strong connections with parents and the community.

#5. using new assessment measures for evaluation.

#6. collaborating between schools and universities.

For four of the seven statements associated with this principle faculty non negative responses had increased from 1986 to 1991 (See Table #7). However, a majority of non

negative responses were found for all the statements selected to measure the staff's support of PDS Principle #6: Invent a new organization.

The results of the one statistically significant statement were unexpected. More people were negative about the statement., "problems are dealt with openly rather than being swept under the carpet" in 1991 than in 1986. This result is interesting, because the administration and staff have developed a decision-making model to deal with problems openly. It may be that in 1986 the staff had little input into the problem-solving process, but felt that the problems were still dealt with openly by administration on a one on one basis. Because of classroom isolation, it may be that faculty never really cared about or were involved in solving school wide problems in the past. It is evident in the following interview statements that an openness exists at Holt and a new organization is being developed.

> "If there is a decision involving the school, it's brought before the staff and if a certain percentage (20%) decides they don't have enough information to make a decision at that point, then we put if off" (for more study)."
>
> "PDS has helped (change our purpose and philosophy). Our association with Michigan State

University has brought to us the research that is going on and made us aware of it."

"Most decisions, I mean the decision to go to have Wednesday mornings for PDS meeting time and staff development, for example, was faculty motivated, argued, and proven. We needed the administration, the board and all that kind of stuff to get final say to it, but the motivation for developing it was the faculty."

"We're having an open interview (for a new assistant principal) and there will be four to five people (staff members) doing the interview. And all staff members had the opportunity to write questions, which we would like to see asked. Afterwards, it will be an open discussion and then we're going to vote on who's going to be assistant principal. That's a major decision!"

"I think that PDS may have been the impetus for (academic growth and renewal), but they (the administration) have given us a lot of leeway in terms of how we schedule our days and how we schedule our time."

Teachers have taken leadership out of individual classrooms to tackle issues and to make decisions, which affect

the entire school. Management practices have and are being changed. The university has become an active participant in the way that practicing teachers approach their work. Since the faculty and administration at Holt H.S. view teaching as the central enterprise of the school, they have altered many practices such as scheduling, conducting meetings, and making decisions. They are creating a new organizational structure for the school.

Concluding Remarks

The following conclusions can be drawn from this study of Holt H.S:

1. Statistically significant changes have occurred over time among faculty members for several belief statements.
2. The school culture has overwhelmingly positive climate as measured by the responses to the selected statements.
3. High school staff have accepted into their value system and their school culture the underlying concepts for the design of professional development schools.
4. The professional development school has had a powerful influence on the beliefs and attitudes of the high school faculty.

Attitudes and beliefs are difficult to change. When they do change it generally occurs over time, with significant effort, or a major intervention. The literature on planned change within educational settings suggests that a school's culture is a key factor in the adoption and implementation of any innovation or change. If schools are to be continually self-improving organizations, whose purpose is to improve student achievement, basic changes in schools and their cultures will be required. Schools, which have a climate of collegiality and norms of experimentation, are more likely to implement innovations successfully.

The climate at Holt H.S. is collegial and cooperative. Its staff and administrators work cooperatively on school improvement activities and are recognized as innovators among Michigan public school personnel. While the financial base and the number of curriculum offerings has not changed dramatically over the time period of the study, qualitatively the school has changed.

The climate and school culture at Holt H.S. encourages teachers as professionals to work together with the building principals, other school district administrators, and university faculty toward improvement and professional growth.

A steering committee of administrators and teachers now establish educational policy and procedures for the school

cooperatively and collaboratively. Curriculum has been redesigned and has become more interdisciplinary and outcome-oriented. Decision-making has become a shared activity between staff and administration. Instructors are more reflective about their teaching and their role as facilitators of learning. New and different innovations regarding time, content, staffing and teaching methods are attempted, and if proven successful, adopted by students and faculty.

The professional development school at Holt H.S. has been a powerful intervention for changing beliefs and the school's culture. The professional development school has assisted the faculty in the development of new ways of thinking, improved teaching practices, provided time for reflection and inquiry, and fostered collaboration, and cooperative endeavors between university and school faculty members. These activities have caused fundamental shifts in thinking and acting in the climate and culture of the high school.

Recommendations

As a result of this study the following recommendations are made:

#1. Professionals interested in the design of professional development schools should develop a survey instrument

to measure faculty support for the values inherent to PDS.

#2. Each newly designated professional development school should have a school climate survey administered to provide baseline data to measure improvements over time in the school's culture.

#3. Similar studies should be conducted at other PDS sites to substantiate both overall staff belief changes and individual changes which might occur over time in a PDS setting.

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Author Notes

During the 1990-91 school year the researcher participated in a post-doctorate fellowship program at Michigan State University funded by the Michigan Partnership for a New Education. The fellowship was awarded to explore

and study teacher education reform, school restructuring and the concept of a professional development school.

The Michigan Partnership for a New Education, a non-profit corporation founded in 1989 has embarked on a substantial long-term effort to develop new models of partnerships between the universities and Michigan schools. These partnerships known as Professional Development Schools (PDS) are regular elementary, middle, or high schools that work in partnership with a university to develop and demonstrate 1) fine learning programs for diverse students, 2) practical, thought-provoking preparation for novice teachers, 3) new understandings and professional responsibilities for experienced educators, and 4) research projects that add to all educators' knowledge about how to make schools more effective.

Appendix A

SECONDARY SCHOOL DEVELOPMENT QUESTIONNAIRE

FORM II

Introduction

The purpose of this questionnaire is to survey your perceptions based on your experiences in this school. There are no right or wrong answers. Whenever possible, questions are designed to measure "school effects" and you will be asked to generalize about he people working in this school. Where this is not possible, you should respond from your own experience.

Responses will be summarized and reported back to the faculty and administration of this school. To ensure confidentiality, do not write your name on the Answer Sheet.

Instructions

1. Please DO NOT MARK the questionnaire. All responses are to be recorded on a separate Answer Sheet.

2. All questions have five possible answers. Record your answer by darkening the space beneath one of the response options (A-E) on the separate Answer Sheet. The response categories are:

   A = Strongly Agree
   B = Agree
   C = Undecided (Use this option as infrequently as possible)
   D = Disagree
   E = Strongly Disagree

3. Although some questions may seem to warrant a Yes-No response, the response categories permit you to indicate the intensity of your feelings in relation to the item.

4. Your perceptions based on your experience in this school are important.

5. The person administering this questionnaire is available to answer procedural questions, but it is your interpretation of each item that is important.

6. Each item must be read carefully. There is not a time limit. Completion of this questionnaire is expected to take approximately 30 minutes.

A = Strongly Agree
B = Agree
C = Undecided
D = Disagree
E = Strongly Disagree

1. Teachers are available to students for special help on academic or personal problems.
2. Teachers and their students together work out rules governing behavior in the classroom.
3. Most teachers use criterion-referenced testing to give specific student feedback.
4. Standardized test results are not available or are not used to evaluate program objectives in this school.
5. Teachers start and end class promptly.
6. The guidance and counseling system in this school serve all students equally.
7. There are opportunities for career education for students of all racial and ethnic groups.
8. Most students and staff members obey the school's rules.
9. Students are praised for good performance.
10. There are procedures open to me for going to a higher authority if a decision has been made that seems unfair.
11. When we have conflicts in this school, the result is constructive, not destructive.
12. Teachers in this school observe other teachers teaching.
13. The teachers in this school know how to teach as well as what to teach.
14. Written, sequential objectives have been developed for every content area.
15. Teachers like working in this school.
16. Most teachers communicate frequently with parents in this school.
17. There is consistency in discipline procedures for all students.
18. The principal talks with us frankly and openly.
19. Parent groups reflect the racial and ethnic make-up of the student population.

20. Women and minorities are fairly represented among staff, including counselors, and in the administration.

21. Teachers from one subject area or grade level respect those from other subject areas and grade levels.

22. The student government makes important decisions.

23. Students feel that teachers are "on their side".

24. The principal gives weight to the student side of questions.

25. Students would rather attend this school than transfer to another.

26. Supervision is directed at instruction.

27. During follow-up to formal observations by the principal, a plan for improvement frequently results.

28. New students and faculty members are made to feel welcome and part of the group.

29. Students not mastering subject matter frequently are retained in grade.

30. Problems are dealt with openly rather than being swept under the carpet.

31. Fifty minutes or more is allocated for mathematics instruction each day throughout this school.

32. All courses require students to write.

33. Students feel that the school program is relevant to their future needs.

34. Instructional issues are seldom the focus of faculty meetings.

35. There is clear, strong, centralized instructional leadership from the principal in this school.

36. New programs are adapted to the particular needs of this community and this school.

37. During follow-up to formal observations the principal's main emphasis is on instructional improvement.

38. Teachers in this school do <u>not</u> turn to the principal with instructional concerns or problems.

39. Scarce resources are rationed effectively by the principal.

40. Eighty to one hundred percent of students' parents attend scheduled parent-teacher conferences.

41. Students and staff have numerous opportunities to work jointly on school projects.

42. In this school low-achieving students present more discipline problems than other students.

43. The principal is highly visible throughout the school.

44. Many parents initiate many contacts with the school each month.

45. Most students come to class with all the materials they need (e.g., books, paper, pencil).

46. Students who want to learn are often interfered with.

47. Staff and students view this school as a secure place.

48. Teachers trust students to use good judgement.

49. At the principal's initiative, teachers work together to effectively coordinate the instructional program within and between grades.

50. Parent-teacher conferences focus on factors directly related to student achievement.

51. The faculty is integrated.

52. The principal is very active in securing resources to facilitate instruction.

53. School-wide objectives are the focal point of reading instruction in this school.

54. Mathematics objectives are not coordinated and monitored up through all grades in this school.

55. In this school there is annual standardized testing at each grade level.

56. Pull-out programs (e.g., Chapter 1, Special Education, Gifted, etc.) often disrupt and interfere with subject matter instruction.

57. The staff can spot disorders early and respond quickly and firmly.

58. Pregnant students rarely finish school.

59. In basic skills instruction in this school, reteaching and specific skill remediation are important parts of the teaching process.

60. The principal leads frequent, formal discussions concerning instruction and student achievement.

61. Most parents understand and promote the school's instructional program.

62. Most problems facing this school can be solved by the principal and faculty without a great deal of outside help.

63. Beyond parent conferences and report cards, teachers in this school have several other ways for communicating students' progress to parents.

64. Multiple assessment methods (e.g., criterion-referenced tests, work samples, mastery check lists) are used to assess student progress.

65. The principal frequently communicates to individual teachers their responsibilities in relation to student achievement.

66. The school building has the space and physical arrangements needed to conduct the kinds of programs we have.

67. Student behavior is generally positive in this school.

68. In reading, initial skill instruction is often presented to a heterogeneous group of students.

69. When a problem comes up, this school has procedures for working on it.

70. Female students are encouraged to remain in school.

71. Students stay away from school only for good reasons.

72. Teachers discipline male and female students equally for similar infractions.

73. There is opportunity for students to participate in clubs that promote their race, gender or cultural heritage.

74. Generally, discipline is <u>not</u> an issue in this school.

75. Courses stress the accomplishments of various racial and ethnic groups.

76. There is little cooperation in regard to homework monitoring between parents and teachers in this school.

77. The principal makes at least two formal classroom observations each year.

78. The principal reviews and interprets test results with and for the faculty.

79. All students are expected to master subject matter at each grade level.

80. There are few student interruptions during class time.

81. Special instructional programs for individual students are integrated with classroom instruction and the school curriculum.

82. Teachers in this school plan assignments so that students will be highly successful during practice work following direct instruction.

83. Students here spend five hours a week or more on homework.

84. Teachers, administrators and parents assume responsibility for discipline in this school.

85. Women are involved in non-traditional courses; e.g., technical vocational courses and advanced science and math courses.

86. Teachers provide opportunities for students to work in groups that cross race, gender and cultural boundaries.

87. Elective classes are integrated by race, ethnicity and gender.

88. This school has clear, consistent rules.

89. Teachers believe that all students in this school can master subject matter as a direct result of the instructional program.

90. I feel that my ideas are listened to and used in this school.

91. During instruction students are working independently on seatwork for the majority of the allocated time.

92. When all is said and done, I feel that I count in this school.

93. More then 90% of my students regularly come to school with their homework completed.

94. Teachers in this school do <u>not</u> hold consistently high expectations for all students.

95. Teachers start on time and continue teaching to the final bell.

96. Teachers in this school believe they are responsible for all students mastering all subject matter at each grade level.

97. Home visits, phone calls, newsletters and regular notes all are ways that teachers communicate with parents in this school.

98. Teachers praise all students for their accomplishments rather than praise only those who accomplish the most.

99. Teachers are held accountable in this school for providing learning opportunities for each of their classes.

100. The principal really cares about students.

Appendix B

The following thirty-seven statements from the Secondary School Development Questionnaire: Form II survey were used for analysis and comparison.

Principle #1 Teach for understanding so that students learn for a lifetime.

1. Teachers in this school believe that they are responsible for all students mastering all subject matter at each grade level. (Statement #96)
2. Teachers believe that all students in this school can master subject matter as a direct result of the instructional program. (Statement #89)
3. All students are expected to master subject matter at each grade level. (Statement #79)
4. Teachers in this school do not hold consistently high expectations for all students. (Statement #94)

Principle #2 Organize the school and its classrooms as a community of learning.

1. Students stay away form school only for good reasons. (Statement #71)
2. Students and staff have numerous opportunities to work jointly on school projects. (Statement #41)

3. Teachers from one subject area or grade level respect those from other subject areas or grade levels. (Statement #21)

4. New students and faculty members are made to feel welcome and part of the group. (Statement #28)

5. The principal really cares about students. (Statement #100)

6. The principal talks with us frankly and openly. (Statement #18)

7. Most parents understand and promote the school's instructional program. (Statement #61)

Principle #3 Hold these ambitious learning goals for everybody's children.

1. The guidance and counseling system in this school serve all students equally. (Statement #6)

2. Teachers provide opportunities for students to work in groups that cross race, gender and cultural boundaries. (Statement #86)

Principle #4 Teach adults as well as children.

1. Students feel that the school program is relevant to their future needs. (Statement #33)

2. Teachers are held accountable in this school for providing learning opportunities for each of their classes. (Statement #99)

3. Teachers in this school observe other teachers teaching. (Statement #12)

4. The teachers in this school know how to teach as well as what to teach. (Statement #13)

5. The principal frequently communicates to individual teachers their responsibilities in relation to student achievement. (Statement #65)

6. Instructional issues are seldom the focus of faculty meetings. (Statement #34)

7. During follow-up to formal observations the principal's main emphasis is on instructional improvement. (Statement #37)

8. The principal leads frequent, formal discussions concerning instruction and student achievement. (Statement #60)

9. Teachers in this school do not turn to the principal with instructional concerns or problems. (Statement #38)

10. There is clear, strong centralized instructional leadership from the principal in this school. (Statement #35)

11. At the principal's initiative, teachers work together to effectively coordinate the instructional program within and between grades. (Statement #49)

12. The principal is highly visible throughout the school. (Statement #43)

13. Supervision is directed at instruction.(Statement #26)

14. The principal is very active in securing resources to facilitate instruction. (Statement #52)

Principle #5 Make reflection and inquiry the central feature of the school.

1. Special instructional programs for individual students are integrated with classroom instruction and school curriculum. (Statement #81)

2. Pull out programs often disrupt and interfere with subject matter instruction. (Statement #56)

3. Multiple assessments methods are used to assess student progress. (Statement #64)

Principle # 6 Invent a new organization.

1. Problems are dealt with openly rather than being swept under the carpet. (Statement #30)

2. Most problems facing this school can be solved by the principal and faculty without a great deal of outside help. (Statement #62)

3. When all is said and done, I feel that I count in this school. (Statement #92)

4. New programs are adapted to the particular needs of this community and this particular school.

(Statement #36)

5. I feel that my ideas are listened to and used in this school. (Statement#90)

6. When we have conflicts in this school, the results is constructive and not destructive. (Statement #11)

7. When a problem comes up, this school has procedures for working on it. (Statement #69)

Appendix C

TABLE OF ROW BY COL

ROW	COL		
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	0 2.5 -2.5 0.00 0.00	42 39.5 2.5 100.00 53.16	42
1991	5 2.5 2.5 11.90 100.00	37 39.5 -2.5 88.10 46.84	42
Total	5	79	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	5.316	0.021
Likelihood Ratio Chi-Square	1	7.248	0.007
Continuity Adj. Chi-Square	1	3.403	0.065
Mantel-Haenszel Chi-Square	1	5.253	0.022
Fisher's Exact Test (Left)			0.028
(Right)			1.000
(2-Tail)			0.055
Phi Coefficient		-0.252	
Contingency Coefficient		0.244	
Cramer's V		-0.252	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	2 3 -1 4.76 33.33	40 39 1 95.24 51.28	42
1991	4 3 1 9.52 66.67	38 39 -1 90.48 48.72	42
Total	6	78	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.718	0.397
Likelihood Ratio Chi-Square	1	0.731	0.393
Continuity Adj. Chi-Square	1	0.179	0.672
Mantel-Haenszel Chi-Square	1	0.709	0.400
Fisher's Exact Test (Left)			0.338
(Right)			0.899
(2-Tail)			0.676
Phi Coefficient		-0.092	
Contingency Coefficient		0.092	
Cramer's V		-0.092	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL

Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	3 3 0 7.14 50.00	39 39 0 92.86 50.00	42
1991	3 3 0 7.14 50.00	39 39 0 92.86 50.00	42
Total	6	78	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.000	1.000
Likelihood Ratio Chi-Square	1	0.000	1.000
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.000	1.000
Fisher's Exact Test (Left)			0.662
(Right)			0.662
(2-Tail)			1.000
Phi Coefficient		0.000	
Contingency Coefficient		0.000	
Cramer's V		0.000	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL

Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	2 2.5 -0.5 4.76 40.00	40 39.5 0.5 95.24 50.63	42
1991	3 2.5 0.5 7.14 60.00	39 39.5 -0.5 92.86 49.37	42
Total	5	79	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.213	0.645
Likelihood Ratio Chi-Square	1	0.214	0.644
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.210	0.647
Fisher's Exact Test (Left)			0.500
(Right)			0.820
(2-Tail)			1.000
Phi Coefficient		-0.050	
Contingency Coefficient		0.050	
Cramer's V		-0.050	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL

Frequency / Expected / Deviation / Row Pct / Col Pct	Negative	Non-Negative	Total
1986	2	40	42
	1.5	40.5	
	0.5	-0.5	
	4.76	95.24	
	66.67	49.38	
1991	1	41	42
	1.5	40.5	
	-0.5	0.5	
	2.38	97.62	
	33.33	50.62	
Total	3	81	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.346	0.557
Likelihood Ratio Chi-Square	1	0.352	0.553
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.342	0.559
Fisher's Exact Test (Left)			0.880
(Right)			0.500
(2-Tail)			1.000
Phi Coefficient		0.064	
Contingency Coefficient		0.064	
Cramer's V		0.064	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW	COL		
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	3 2 1 7.14 75.00	39 40 -1 92.86 48.75	42
1991	1 2 -1 2.38 25.00	41 40 1 97.62 51.25	42
Total	4	80	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.050	0.306
Likelihood Ratio Chi-Square	1	1.097	0.295
Continuity Adj. Chi-Square	1	0.263	0.608
Mantel-Haenszel Chi-Square	1	1.037	0.308
Fisher's Exact Test (Left)			0.942
(Right)			0.308
(2-Tail)			0.616
Phi Coefficient		0.112	
Contingency Coefficient		0.111	
Cramer's V		0.112	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL

Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	1 0.5 0.5 2.38 100.00	41 41.5 -0.5 97.62 49.40	42
1991	0 0.5 -0.5 0.00 0.00	42 41.5 0.5 100.00 50.60	42
Total	1	83	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.012	0.314
Likelihood Ratio Chi-Square	1	1.398	0.237
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	1.000	0.317
Fisher's Exact Test (Left)*			1.000
(Right)			0.500
(2-Tail)			1.000
Phi Coefficient		0.110	
Contingency Coefficient		0.109	
Cramer's V		0.110	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	27	15	42
Expected	19.5	22.5	
Deviation	7.5	-7.5	
Row Pct	64.29	35.71	
Col Pct	69.23	33.33	
1991 Frequency	12	30	42
Expected	19.5	22.5	
Deviation	-7.5	7.5	
Row Pct	28.57	71.43	
Col Pct	30.77	66.67	
Total	39	45	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	10.769	0.001
Likelihood Ratio Chi-Square	1	11.018	0.001
Continuity Adj. Chi-Square	1	9.381	0.002
Mantel-Haenszel Chi-Square	1	10.641	0.001
Fisher's Exact Test (Left)			1.000
(Right)			1.00E-03
(2-Tail)			2.00E-03
Phi Coefficient		0.358	
Contingency Coefficient		0.337	
Cramer's V		0.358	

Sample Size = 84

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	8 6 2 19.05 66.67	34 36 -2 80.95 47.22	42
1991	4 6 -2 9.52 33.33	38 36 2 90.48 52.78	42
Total	12	72	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.556	0.212
Likelihood Ratio Chi-Square	1	1.582	0.209
Continuity Adj. Chi-Square	1	0.875	0.350
Mantel-Haenszel Chi-Square	1	1.537	0.215
Fisher's Exact Test (Left)			0.942
(Right)			0.175
(2-Tail)			0.350
Phi Coefficient		0.136	
Contingency Coefficient		0.135	
Cramer's V		0.136	

Sample Size = 84

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	3 3 0 7.14 50.00	39 39 0 92.86 50.00	42
1991	3 3 0 7.14 50.00	39 39 0 92.86 50.00	42
Total	6	78	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.000	1.000
Likelihood Ratio Chi-Square	1	0.000	1.000
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.000	1.000
Fisher's Exact Test (Left)			0.662
(Right)			0.662
(2-Tail)			1.000
Phi Coefficient		0.000	
Contingency Coefficient		0.000	
Cramer's V		0.000	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	7 5 2 16.67 70.00	35 37 -2 83.33 47.30	42
1991	3 5 -2 7.14 30.00	39 37 2 92.86 52.70	42
Total	10	74	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.816	0.178
Likelihood Ratio Chi-Square	1	1.862	0.172
Continuity Adj. Chi-Square	1	1.022	0.312
Mantel-Haenszel Chi-Square	1	1.795	0.180
Fisher's Exact Test (Left)			0.956
(Right)			0.156
(2-Tail)			0.313
Phi Coefficient		0.147	
Contingency Coefficient		0.145	
Cramer's V		0.147	

Sample Size = 84

TABLE OF ROW BY COL

ROW COL

Frequency / Expected / Deviation / Row Pct / Col Pct	Negative	Non-Negative	Total
1986	4	38	42
	2.5	39.5	
	1.5	-1.5	
	9.52	90.48	
	80.00	48.10	
1991	1	41	42
	2.5	39.5	
	-1.5	1.5	
	2.38	97.62	
	20.00	51.90	
Total	5	79	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.914	0.167
Likelihood Ratio Chi-Square	1	2.041	0.153
Continuity Adj. Chi-Square	1	0.851	0.356
Mantel-Haenszel Chi-Square	1	1.891	0.169
Fisher's Exact Test (Left)			0.972
(Right)			0.180
(2-Tail)			0.360
Phi Coefficient		0.151	
Contingency Coefficient		0.149	
Cramer's V		0.151	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW	COL		
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	0 0.5 -0.5 0.00 0.00	42 41.5 0.5 100.00 50.60	42
1991	1 0.5 0.5 2.38 100.00	41 41.5 -0.5 97.62 49.40	42
Total	1	83	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.012	0.314
Likelihood Ratio Chi-Square	1	1.398	0.237
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	1.000	0.317
Fisher's Exact Test (Left)			0.500
(Right)			1.000
(2-Tail)			1.000
Phi Coefficient		-0.110	
Contingency Coefficient		0.109	
Cramer's V		-0.110	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW	COL		
Frequency | Expected | Deviation | Row Pct | Col Pct	Negative	Non-Negative	Total
1986	3	39	42
	3.5	38.5	
	-0.5	0.5	
	7.14	92.86	
	42.86	50.65	
1991	4	38	42
	3.5	38.5	
	0.5	-0.5	
	9.52	90.48	
	57.14	49.35	
Total	7	77	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.156	0.693
Likelihood Ratio Chi-Square	1	0.156	0.693
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.154	0.695
Fisher's Exact Test (Left)			0.500
(Right)			0.784
(2-Tail)			1.000
Phi Coefficient		-0.043	
Contingency Coefficient		0.043	
Cramer's V		-0.043	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL

Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	4 4 0 9.52 50.00	38 38 0 90.48 50.00	42
1991	4 4 0 9.52 50.00	38 38 0 90.48 50.00	42
Total	8	76	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.000	1.000
Likelihood Ratio Chi-Square	1	0.000	1.000
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.000	1.000
Fisher's Exact Test (Left)			0.644
(Right)			0.644
(2-Tail)			1.000
Phi Coefficient		0.000	
Contingency Coefficient		0.000	
Cramer's V		0.000	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	30	12	42
1986 Expected	16.5	25.5	
1986 Deviation	13.5	-13.5	
1986 Row Pct	71.43	28.57	
1986 Col Pct	90.91	23.53	
1991 Frequency	3	39	42
1991 Expected	16.5	25.5	
1991 Deviation	-13.5	13.5	
1991 Row Pct	7.14	92.86	
1991 Col Pct	9.09	76.47	
Total	33	51	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	36.385	0.000
Likelihood Ratio Chi-Square	1	40.692	0.000
Continuity Adj. Chi-Square	1	33.740	0.000
Mantel-Haenszel Chi-Square	1	35.952	0.000
Fisher's Exact Test (Left)			1.000
(Right)			5.31E-10
(2-Tail)			1.06E-09
Phi Coefficient		0.658	
Contingency Coefficient		0.550	
Cramer's V		0.658	

Sample Size = 84

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	3 2 1 7.14 75.00	39 40 -1 92.86 48.75	42
1991	1 2 -1 2.38 25.00	41 40 1 97.62 51.25	42
Total	4	80	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.050	0.306
Likelihood Ratio Chi-Square	1	1.097	0.295
Continuity Adj. Chi-Square	1	0.263	0.608
Mantel-Haenszel Chi-Square	1	1.037	0.308
Fisher's Exact Test (Left)			0.942
(Right)			0.308
(2-Tail)			0.616
Phi Coefficient		0.112	
Contingency Coefficient		0.111	
Cramer's V		0.112	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	4	38	42
1986 Expected	7	35	
1986 Deviation	-3	3	
1986 Row Pct	9.52	90.48	
1986 Col Pct	28.57	54.29	
1991 Frequency	10	32	42
1991 Expected	7	35	
1991 Deviation	3	-3	
1991 Row Pct	23.81	76.19	
1991 Col Pct	71.43	45.71	
Total	14	70	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.086	0.079
Likelihood Ratio Chi-Square	1	3.171	0.075
Continuity Adj. Chi-Square	1	2.143	0.143
Mantel-Haenszel Chi-Square	1	3.049	0.081
Fisher's Exact Test (Left)			0.071
(Right)			0.981
(2-Tail)			0.141
Phi Coefficient		-0.192	
Contingency Coefficient		0.188	
Cramer's V		-0.192	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Positive	Non-Positive	Total
1986	15	27	42
Expected	11	31	
Deviation	4	-4	
Row Pct	35.71	64.29	
Col Pct	68.18	43.55	
1991	7	35	42
Expected	11	31	
Deviation	-4	4	
Row Pct	16.67	83.33	
Col Pct	31.82	56.45	
Total	22	62	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.941	0.047
Likelihood Ratio Chi-Square	1	4.012	0.045
Continuity Adj. Chi-Square	1	3.018	0.082
Mantel-Haenszel Chi-Square	1	3.894	0.048
Fisher's Exact Test (Left)			0.988
(Right)			0.041
(2-Tail)			0.081
Phi Coefficient		0.217	
Contingency Coefficient		0.212	
Cramer's V		0.217	

Sample Size = 84

TABLE OF ROW BY COL

ROW COL

Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	4 5 -1 9.52 40.00	38 37 1 90.48 51.35	42
1991	6 5 1 14.29 60.00	36 37 -1 85.71 48.65	42
Total	10	74	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.454	0.500
Likelihood Ratio Chi-Square	1	0.457	0.499
Continuity Adj. Chi-Square	1	0.114	0.736
Mantel-Haenszel Chi-Square	1	0.449	0.503
Fisher's Exact Test (Left)			0.369
(Right)			0.844
(2-Tail)			0.738
Phi Coefficient		-0.074	
Contingency Coefficient		0.073	
Cramer's V		-0.074	

Sample Size = 84

TABLE OF ROW BY COL

ROW	COL		
Frequency | Expected | Deviation | Row Pct | Col Pct	Negative	Non-Negative	Total
1986	9	33	42
	7	35	
	2	-2	
	21.43	78.57	
	64.29	47.14	
1991	5	37	42
	7	35	
	-2	2	
	11.90	88.10	
	35.71	52.86	
Total	14	70	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	1.371	0.242
Likelihood Ratio Chi-Square	1	1.388	0.239
Continuity Adj. Chi-Square	1	0.771	0.380
Mantel-Haenszel Chi-Square	1	1.355	0.244
Fisher's Exact Test (Left)			0.929
(Right)			0.190
(2-Tail)			0.380
Phi Coefficient		0.128	
Contingency Coefficient		0.127	
Cramer's V		0.128	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	6	36	42
Expected	5.5	36.5	
Deviation	0.5	-0.5	
Row Pct	14.29	85.71	
Col Pct	54.55	49.32	
1991 Frequency	5	37	42
Expected	5.5	36.5	
Deviation	-0.5	0.5	
Row Pct	11.90	88.10	
Col Pct	45.45	50.68	
Total	11	73	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.105	0.746
Likelihood Ratio Chi-Square	1	0.105	0.746
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.103	0.748
Fisher's Exact Test (Left)			0.740
(Right)			0.500
(2-Tail)			1.000
Phi Coefficient		0.035	
Contingency Coefficient		0.035	
Cramer's V		0.035	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	6	36	42
Expected	5	37	
Deviation	1	-1	
Row Pct	14.29	85.71	
Col Pct	60.00	48.65	
1991 Frequency	4	38	42
Expected	5	37	
Deviation	-1	1	
Row Pct	9.52	90.48	
Col Pct	40.00	51.35	
Total	10	74	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.454	0.500
Likelihood Ratio Chi-Square	1	0.457	0.499
Continuity Adj. Chi-Square	1	0.114	0.736
Mantel-Haenszel Chi-Square	1	0.449	0.503
Fisher's Exact Test (Left)			0.844
(Right)			0.369
(2-Tail)			0.738
Phi Coefficient		0.074	
Contingency Coefficient		0.073	
Cramer's V		0.074	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	3	39	42
Expected	3.5	38.5	
Deviation	-0.5	0.5	
Row Pct	7.14	92.86	
Col Pct	42.86	50.65	
1991 Frequency	4	38	42
Expected	3.5	38.5	
Deviation	0.5	-0.5	
Row Pct	9.52	90.48	
Col Pct	57.14	49.35	
Total	7	77	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.156	0.693
Likelihood Ratio Chi-Square	1	0.156	0.693
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.154	0.695
Fisher's Exact Test (Left)			0.500
(Right)			0.784
(2-Tail)			1.000
Phi Coefficient		-0.043	
Contingency Coefficient		0.043	
Cramer's V		-0.043	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	0 1.5 -1.5 0.00 0.00	42 40.5 1.5 100.00 51.85	42
1991	3 1.5 1.5 7.14 100.00	39 40.5 -1.5 92.86 48.15	42
Total	3	81	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.111	0.078
Likelihood Ratio Chi-Square	1	4.270	0.039
Continuity Adj. Chi-Square	1	1.383	0.240
Mantel-Haenszel Chi-Square	1	3.074	0.080
Fisher's Exact Test (Left)			0.120
(Right)			1.000
(2-Tail)			0.241
Phi Coefficient		-0.192	
Contingency Coefficient		0.189	
Cramer's V		-0.192	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	2 1.5 0.5 4.76 66.67	40 40.5 -0.5 95.24 49.38	42
1991	1 1.5 -0.5 2.38 33.33	41 40.5 0.5 97.62 50.62	42
Total	3	81	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.346	0.557
Likelihood Ratio Chi-Square	1	0.352	0.553
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.342	0.559
Fisher's Exact Test (Left)			0.880
(Right)			0.500
(2-Tail)			1.000
Phi Coefficient		0.064	
Contingency Coefficient		0.064	
Cramer's V		0.064	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL

Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	3 1.5 1.5 7.14 100.00	39 40.5 -1.5 92.86 48.15	42
1991	0 1.5 -1.5 0.00 0.00	42 40.5 1.5 100.00 51.85	42
Total	3	81	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.111	0.078
Likelihood Ratio Chi-Square	1	4.270	0.039
Continuity Adj. Chi-Square	1	1.383	0.240
Mantel-Haenszel Chi-Square	1	3.074	0.080
Fisher's Exact Test (Left)			1.000
(Right)			0.120
(2-Tail)			0.241
Phi Coefficient		0.192	
Contingency Coefficient		0.189	
Cramer's V		0.192	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	9 9.5 -0.5 21.43 47.37	33 32.5 0.5 78.57 50.77	42
1991	10 9.5 0.5 23.81 52.63	32 32.5 -0.5 76.19 49.23	42
Total	19	65	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.068	0.794
Likelihood Ratio Chi-Square	1	0.068	0.794
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.067	0.795
Fisher's Exact Test (Left)			0.500
(Right)			0.699
(2-Tail)			1.000
Phi Coefficient		-0.028	
Contingency Coefficient		0.028	
Cramer's V		-0.028	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	7	35	42
Expected	7.5	34.5	
Deviation	-0.5	0.5	
Row Pct	16.67	83.33	
Col Pct	46.67	50.72	
1991 Frequency	8	34	42
Expected	7.5	34.5	
Deviation	0.5	-0.5	
Row Pct	19.05	80.95	
Col Pct	53.33	49.28	
Total	15	69	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.081	0.776
Likelihood Ratio Chi-Square	1	0.081	0.776
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.080	0.777
Fisher's Exact Test (Left)			0.500
(Right)			0.715
(2-Tail)			1.000
Phi Coefficient		-0.031	
Contingency Coefficient		0.031	
Cramer's V		-0.031	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986	8	34	42
Expected	8	34	
Deviation	0	0	
Row Pct	19.05	80.95	
Col Pct	50.00	50.00	
1991	8	34	42
Expected	8	34	
Deviation	0	0	
Row Pct	19.05	80.95	
Col Pct	50.00	50.00	
Total	16	68	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.000	1.000
Likelihood Ratio Chi-Square	1	0.000	1.000
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.000	1.000
Fisher's Exact Test (Left)			0.609
(Right)			0.609
(2-Tail)			1.000
Phi Coefficient		0.000	
Contingency Coefficient		0.000	
Cramer's V		0.000	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Positive	Non-Positive	Total
1986	9	33	42
Expected	6	36	
Deviation	3	-3	
Row Pct	21.43	78.57	
Col Pct	75.00	45.83	
1991	3	39	42
Expected	6	36	
Deviation	-3	3	
Row Pct	7.14	92.86	
Col Pct	25.00	54.17	
Total	12	72	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.500	0.061
Likelihood Ratio Chi-Square	1	3.640	0.056
Continuity Adj. Chi-Square	1	2.431	0.119
Mantel-Haenszel Chi-Square	1	3.458	0.063
Fisher's Exact Test (Left)			0.987
(Right)			0.058
(2-Tail)			0.116
Phi Coefficient		0.204	
Contingency Coefficient		0.200	
Cramer's V		0.204	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	9	33	42
Expected	6	36	
Deviation	3	-3	
Row Pct	21.43	78.57	
Col Pct	75.00	45.83	
1991 Frequency	3	39	42
Expected	6	36	
Deviation	-3	3	
Row Pct	7.14	92.86	
Col Pct	25.00	54.17	
Total	12	72	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.500	0.061
Likelihood Ratio Chi-Square	1	3.640	0.056
Continuity Adj. Chi-Square	1	2.431	0.119
Mantel-Haenszel Chi-Square	1	3.458	0.063
Fisher's Exact Test (Left)			0.987
(Right)			0.058
(2-Tail)			0.116
Phi Coefficient		0.204	
Contingency Coefficient		0.200	
Cramer's V		0.204	

Sample Size = 84

TABLE OF ROW BY COL

ROW	COL		
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	35 30.5 4.5 83.33 57.38	7 11.5 -4.5 16.67 30.43	42
1991	26 30.5 -4.5 61.90 42.62	16 11.5 4.5 38.10 69.57	42
Total	61	23	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	4.850	0.028
Likelihood Ratio Chi-Square	1	4.950	0.026
Continuity Adj. Chi-Square	1	3.832	0.050
Mantel-Haenszel Chi-Square	1	4.792	0.029
Fisher's Exact Test (Left)			0.993
(Right)			0.024
(2-Tail)			0.049
Phi Coefficient		0.240	
Contingency Coefficient		0.234	
Cramer's V		0.240	

Sample Size = 84

TABLE OF ROW BY COL

ROW COL Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	1 3.5 -2.5 2.38 14.29	41 38.5 2.5 97.62 53.25	42
1991	6 3.5 2.5 14.29 85.71	36 38.5 -2.5 85.71 46.75	42
Total	7	77	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.896	0.048
Likelihood Ratio Chi-Square	1	4.287	0.038
Continuity Adj. Chi-Square	1	2.494	0.114
Mantel-Haenszel Chi-Square	1	3.850	0.050
Fisher's Exact Test (Left)			0.055
(Right)			0.994
(2-Tail)			0.109
Phi Coefficient		-0.215	
Contingency Coefficient		0.211	
Cramer's V		-0.215	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF ROW BY COL

ROW COL			
Frequency Expected Deviation Row Pct Col Pct	Negative	Non-Negative	Total
1986	9 6 3 21.43 75.00	33 36 -3 78.57 45.83	42
1991	3 6 -3 7.14 25.00	39 36 3 92.86 54.17	42
Total	12	72	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	3.500	0.061
Likelihood Ratio Chi-Square	1	3.640	0.056
Continuity Adj. Chi-Square	1	2.431	0.119
Mantel-Haenszel Chi-Square	1	3.458	0.063
Fisher's Exact Test (Left)			0.987
(Right)			0.058
(2-Tail)			0.116
Phi Coefficient		0.204	
Contingency Coefficient		0.200	
Cramer's V		0.204	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	10	32	42
Expected	11	31	
Deviation	-1	1	
Row Pct	23.81	76.19	
Col Pct	45.45	51.61	
1991 Frequency	12	30	42
Expected	11	31	
Deviation	1	-1	
Row Pct	28.57	71.43	
Col Pct	54.55	48.39	
Total	22	62	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.246	0.620
Likelihood Ratio Chi-Square	1	0.247	0.619
Continuity Adj. Chi-Square	1	0.062	0.804
Mantel-Haenszel Chi-Square	1	0.243	0.622
Fisher's Exact Test (Left)			0.402
(Right)			0.771
(2-Tail)			0.804
Phi Coefficient		-0.054	
Contingency Coefficient		0.054	
Cramer's V		-0.054	

Sample Size = 84

TABLE OF ROW BY COL

ROW / COL	Negative	Non-Negative	Total
1986 Frequency	3	39	42
Expected	3	39	
Deviation	0	0	
Row Pct	7.14	92.86	
Col Pct	50.00	50.00	
1991 Frequency	3	39	42
Expected	3	39	
Deviation	0	0	
Row Pct	7.14	92.86	
Col Pct	50.00	50.00	
Total	6	78	84

STATISTICS FOR TABLE OF ROW BY COL

Statistic	DF	Value	Prob
Chi-Square	1	0.000	1.000
Likelihood Ratio Chi-Square	1	0.000	1.000
Continuity Adj. Chi-Square	1	0.000	1.000
Mantel-Haenszel Chi-Square	1	0.000	1.000
Fisher's Exact Test (Left)			0.662
(Right)			0.662
(2-Tail)			1.000
Phi Coefficient		0.000	
Contingency Coefficient		0.000	
Cramer's V		0.000	

Sample Size = 84
WARNING: 50% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

Appendix D

Interview Questions for School Climate Study

#1. How would you describe the relationships between faculty members at Holt H.S? Between faculty members and students at Holt H.S.?

#2. How would you characterize the opportunities for academic growth and renewal at Holt H.S.? Are you finding any significant differences in the way you look at, deal with, or act with students as a result of the professional development activities you have been provided? Please explain.

#3. What major issues have come up for decision-making at the high school? How was the decision made and who was involved in the process?

#4. What are the attitudes of the school administrators towards instruction? How would you describe the relationship of the school administrators towards faculty members?

#5. Are you discovering any new or different strategies or techniques related to students and their learning at Holt H.S.? If yes, please explain.

#6. What would you say is the philosophy and purposes of Holt H. S.? What changes have occurred to alter or change the philosophy or purposes at Holt H.S. in recent years?

#7. What activities or things are not working at Holt H.S.?